PATENT SPECIFICATION

499,023

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Complete Specification Accepted : Jan. 16, 1939.

COMPLETE SPECIFICATION

Mechanism for Transporting an Alternating Rectilinear Movement into a Rotary Movement about a Parallel Axis and Vice Versa for Motors, Compressors and the like

I, UGO PERETTI, Via Visconti Modrone 1, Milan, Italy, an Italian Subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a mechanism for converting a reciprocating movement into rotary motion or vice versa, of the kind in which the conversion is effected through a swash plate arranged between a shaft and pistons operating in cylinders parallel to the axis of the shaft.

It has previously been proposed in mechanism of this kind to provide a cylinder carried which is rotatably mounted on a fixed shaft, an inclined hub integral with said shaft carrying a swash plate, the drive between the cylinders and swash plate being transmitted by teeth on the plate, gearing with teeth on the cylinder carrier.

According to this invention the mechanism consists of two rotary shafts arranged concentrically, and a plurality of radial arms coupled at one end to an inclined crank integral with the inner shaft, and at the opposite ends to pistons operating in cylinders fixed to the outer concentric shaft.

A differential gearing is provided between the concentrically arranged shafts, whereby they will rotate in opposite directions, and any difference in the torques of the two shafts will be provided for.

The invention will now be described with reference to the accompanying drawings, in which:—

Fig. 1 is a sectional elevation of a motor, and, Fig. 2 is a section on line A—B of Fig. 1.

A shaft 1 provided with an inclined crank 2 is rotatably mounted in a hollow shaft 3. A casing 4 integral with said hollow shaft 3 forms a support for three cylinders 5 arranged parallel to the shaft 1 and an equal distance apart.

Three arms 6 rotatably coupled to the inclined crank 2 are each provided at their outer end with a ball 7 which in turn is lodged in a semi-spherical bearing 8 fixed to a double acting piston 9.

The concentrically arranged shafts 1 and 3 revolve in suitable bearings and are supported in a casing 10, said shafts being operatively connected together by means of a differential gear 11 shown diagrammatically whereby they will rotate in opposite directions.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Mechanism of the kind referred to comprising two rotary shafts arranged concentrically, and a plurality of radial arms coupled at one end to an inclined crank integral with the inner shaft, and at the opposite ends to pistons operating in cylinders fixed to the outer concentric shaft.

2. Mechanism according to Claim 1, wherein a differential gearing arranged between the concentrically arranged shafts causes them to revolve in opposite directions.

3. Mechanism for converting a reciprocating movement into rotary motion or vice versa substantially as described and as shown in the accompanying drawing.

Dated this 16th day of April, 1937.

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Fig. 1.

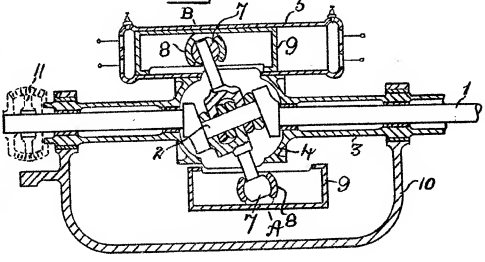
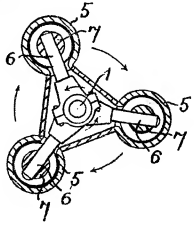


Fig. 2.



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